

**بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ**

**Welcome to all attendance of 105 phys course:  
Two lectures + lab (2h) = 3 credits**

**Reference books:**  
الفيزياء العامة للجامعات (الميكانيكا) تأليف: د. خضر محمد الشيباني ، د. أسامة أحمد العاني  
**Physics (5th Edition) by Arthur Beiser**

**Your Prof. = (room 2A19) عبدالله بن محمد الزبير**

<http://fac.ksu.edu.sa/azzeer>

**Dr. Abdallah M.Azzeer**

105 Phys 1


**Information for (105 Physics-Physics for Architects)**

**Course content:**  
Dimensions and units of physical quantities, Mechanics: Introduction to vectors, speed, velocity and acceleration, free fall, motion in a vertical plane, Newton's laws of motion, Energy and energy transfer: work done by a constant force, kinetic energy, gravitational potential energy, conservation of energy, power, Properties of matter: Density, elasticity, Young's modulus, Shear modulus and bulk modulus, Fluid pressure, fluid flow, Heat: Temperature, Thermal Expansion, law, Internal energy and heat, Specific heat capacity, Heat Conduction, Convection and radiation.

**Reference books:** الفيزياء العامة للجامعات (الميكانيكا) تأليف: د. خضر محمد الشيباني ، د. أسامة أحمد العاني  
English Ref: Physics by Arthur Beiser

الأمثلة والمسائل المطلوبة من الكتاب المقرر (الفيزياء العامة للجامعات)

المسائل	الأمثلة	الفصل
١٣-١٤-١٥-١٦-١٧-١٨-١٩-٢٤	١٢-١١-٧	الأول
٢٣-٢٤-٢٥-٢٦-٢٧-٢٨-٢٩-٣٠	١٠-٩-٨-٦-٥-٤-٣	الثاني
٤١-٤٢-٤٣-٤٤-٤٥-٤٦-٤٧-٤٨-٤٩	٥-١	الرابع
٥١-٥٢-٥٣-٥٤-٥٥-٥٦-٥٧-٥٨-٥٩	١٤-١٣-١٢-١١-١٠-٩-٨-٧-٦-٥-٤-٣-٢-١	الخامس
٦٩-٧٠-٧١-٧٢-٧٣-٧٤-٧٥-٧٦-٧٧-٧٨-٧٩	٢-١	السادس
٨١-٨٢-٨٣-٨٤-٨٥-٨٦-٨٧-٨٨-٨٩-٩٠-٩١-٩٢-٩٣-٩٤-٩٥-٩٦-٩٧-٩٨-٩٩-١٠٠	٥-٤-٣-٢-١	الثاني عشر
١٠١-١٠٢-١٠٣-١٠٤-١٠٥-١٠٦-١٠٧-١٠٨-١٠٩-١١٠-١١١-١١٢-١١٣-١١٤-١١٥-١١٦-١١٧-١١٨-١١٩-١٢٠	٧-٦-٥-٤-٣-٢-١	الثالث عشر
١٢١-١٢٢-١٢٣-١٢٤-١٢٥-١٢٦-١٢٧-١٢٨-١٢٩-١٣٠-١٣١-١٣٢-١٣٣-١٣٤-١٣٥-١٣٦-١٣٧-١٣٨-١٣٩-١٤٠-١٤١-١٤٢-١٤٣-١٤٤-١٤٥-١٤٦-١٤٧-١٤٨-١٤٩-١٥٠	٦-٥-٤-٣-٢-١	الرابع عشر
١٥١-١٥٢-١٥٣-١٥٤-١٥٥-١٥٦-١٥٧-١٥٨-١٥٩-١٦٠-١٦١-١٦٢-١٦٣-١٦٤-١٦٥-١٦٦-١٦٧-١٦٨-١٦٩-١٧٠-١٧١-١٧٢-١٧٣-١٧٤-١٧٥-١٧٦-١٧٧-١٧٨-١٧٩-١٨٠	٢-١	الخامس عشر
١٨١-١٨٢-١٨٣-١٨٤-١٨٥-١٨٦-١٨٧-١٨٨-١٨٩-١٩٠-١٩١-١٩٢-١٩٣-١٩٤-١٩٥-١٩٦-١٩٧-١٩٨-١٩٩-٢٠٠	٧-٦-٥-٤-٣-٢-١	السادس عشر
٢٠١-٢٠٢-٢٠٣-٢٠٤-٢٠٥-٢٠٦-٢٠٧-٢٠٨-٢٠٩-٢١٠-٢١١-٢١٢-٢١٣-٢١٤-٢١٥-٢١٦-٢١٧-٢١٨-٢١٩-٢٢٠	٤-٣-٢-١	السابع عشر



**The students must know how to solve these suggested problems in addition to all the examples under supervision of the teacher.**

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### Class Policy

- You are **expected to come to the class on time.**
- **Late attendance will not be tolerated and will be counted as an absence.**
- Attendance in classes will be recorded.
- You are expected to respect others in the class. **Talking, eating, drinking, etc. will not be tolerated during the class. Sleeping during the class will not be encouraged.**
- Asking questions regarding your subject matter is specially encouraged

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**Given exercises and problems are the least that student must try. There shall be two MID-TERM exams. Class activities are also integral parts of final assessment**

- Date of FIRST MID-TERM exam: Will be posted
- Date of SECOND MID-TERM exam: Will be posted
- Distribution of marks:
  - Two mid- Term Exams = 30
  - Laboratory = 30
  - Final exam = 40

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**PLEASE TURN OFF YOUR MOBILE**  
**Before coming to Lectures**

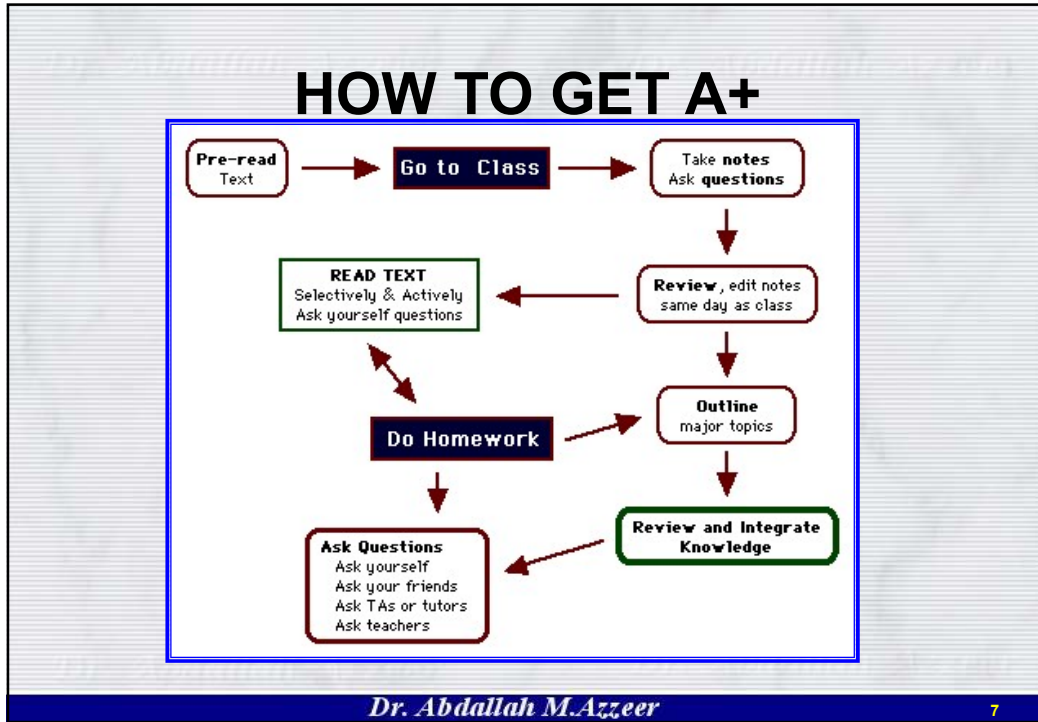
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**I HEAR and I FORGET**      **I SEE and I REMEMBER**      **I DO and I UNDERSTAND**

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## Physics:

### The most basic of all sciences!

- **Physics:** The “Mother” of all sciences!
- **Physics** = The study of the behavior of and the structure of matter and energy and of the interaction between matter and energy.

### Physics: General Discussion

- **Goal of Physics** (& all of science): To quantitatively and qualitatively **describe the “world around us”**.
- **Physics** *IS NOT* merely a collection of facts and formulas!
- **Physics** *IS* a creative activity!
- **Physics** → Observation → Explanation.
- Requires **IMAGINATION!!**

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### Physics & its relation to other fields

- The “Mother” of all Sciences!
- The foundation for and is connected to **ALL** branches of science and engineering.
- Also useful in everyday life and in **MANY** professions
  - Chemistry
  - Life Sciences
  - Architecture
  - Engineering.
  - ....

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Biceps muscle  
Center of gravity  
 $F_1$   
 $F_2 = 2 \text{ kg}$   
 $D_1 = 5 \text{ cm}$   
 $D_2 = 15 \text{ cm}$

P wave  
Q segment  
R wave  
S-T segment  
T wave

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$\Sigma F = ?$

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TurboCAD AnimationLab  
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with  
AnimationLab 2

**YOU NEED PHYSICS**

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